Question no : 8.8

Date : 19-10 -2024

Question : Find the determinant of given matrix

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Author : Amal Biju

Roll no : 5

Semester : 1

Programme : BSC(DA)

#include <stdio.h>

#define SIZE 4

int main()

{

int i,j;

int grid[SIZE][SIZE] =

{

{1, 2, 0, 4},

{5, 8, 7, 6},

{9, 13, 11, 12},

{10, 14, 15, 3}

};

char move;

while (1)

{

for ( i = 0; i < SIZE; i++)

{

for ( j = 0; j < SIZE; j++)

{

if (grid[i][j] == 0)

{

printf(" ");

}

else

{

printf("%2d ", grid[i][j]);

}

}

printf("\n");

}

int solved = 1;

int num = 1;

for ( i = 0; i < SIZE; i++)

{

for (j = 0; j < SIZE; j++)

{

if (i == SIZE - 1 && j == SIZE - 1)

{

if (grid[i][j] != 0)

{

solved = 0;

}

} else

{

if (grid[i][j] != num++)

{

solved = 0;

}

}

}

}

if (solved)

{

printf("Congratulations! You've solved the puzzle!\n");

break;

}

int zerorow, zerocol;

for (i = 0; i < SIZE; i++)

{

for (j = 0; j < SIZE; j++)

{

if (grid[i][j] == 0)

{

zerorow = i;

zerocol = j;

}

}

}

printf("Type(w for upward /\n a for left /\n s for down/\n d for right): ");

scanf(" %c", &move);

int newrow = zerorow, newcol = zerocol;

if (move == 'w' && zerorow > 0) newrow--;

if (move == 's' && zerorow < SIZE - 1) newrow++;

if (move == 'a' && zerocol > 0) newcol--;

if (move == 'd' && zerocol < SIZE - 1) newcol++;

if (newrow != zerorow || newcol != zerocol)

{

grid[zerorow][zerocol] = grid[newrow][newcol];

grid[newrow][newcol] = 0;

}

else

{

printf("Invalid move\n");

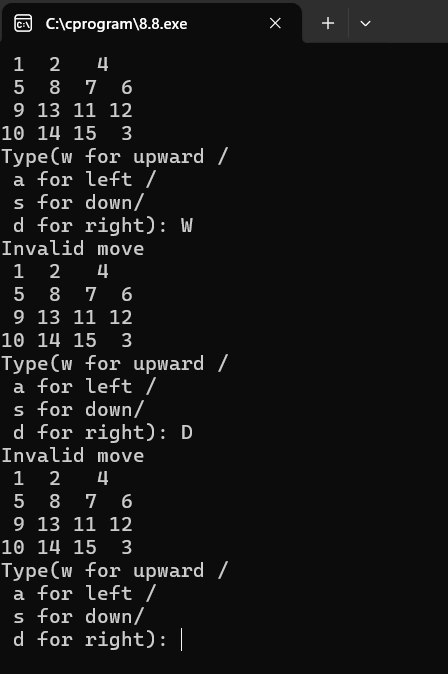
}

}

return 0;

}

**OUTPUT**

****